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EXAMINER	
LY, NGHI H	
ART UNIT	**PAPER NUMBER**
2686	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/678,156	LIM, GUK-CHAN	
	Examiner	Art Unit	
	Nghi H. Ly	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-65* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/26/05;11/01/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 4, 14, 16 and 21 are objected to because of the following informalities: "MSM" and "RSSI" are not well-known acronyms, they should associate with definitions. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 6-10, 12-14, 16-21, 23, 25, 26, 28 and 30-65 are rejected under 35 U.S.C. 102(b) as being anticipated by Toda (US 6,275,713).

Regarding claims 1 and 6, Toda teaches a mobile communication system, comprising: a base station (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station) and a first mobile terminal which transmits state information of the first mobile terminal to the base station (see Abstract and column 1, line 55 to column 4, lines 21), wherein the base station transmits the state information to a second mobile terminal (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 2, Toda teaches the base station transmits the state information to the second mobile terminal when a call connection between the first and second

mobile terminals is terminated (see Abstract and column 1, line 55 to column 4, lines 21, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station).

Regarding claim 3, Toda teaches the base station receives state information of the second mobile terminal and transmits the state information of the second mobile terminal to the first mobile terminal (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station).

Regarding claim 7, Toda teaches receiving an originating signal from the second mobile terminal; transferring a terminating signal to the first mobile terminal (see column 8, lines 7-39), receiving the state information from the first mobile terminal in response to the terminating signal (Abstract, column 1, lines 16-25, column 8, lines 7-39 and column 8, lines 40-55).

Regarding claims 8 and 54, Toda teaches periodically receiving state information from the first mobile terminal and updating previously stored state information and sensing whether a call interruption has occurred because of a network failure (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 9, Toda teaches automatically transmitting a recall signal when the call interruption is sensed (see Abstract and column 1, line 55 to column 4, lines 21, "automatically").

Regarding claim 10, Toda teaches receiving a call termination message; transferring the stored state information transmitted from the first mobile terminal to the

second mobile terminal in response to the call termination message (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 12, Toda teaches a method of managing calls in a mobile communication system (see Abstract), comprising: connecting a call between an originating side terminal and a receiving side terminal (see Abstract and column 1, line 55 to column 4, lines 21), periodically storing state information transmitted from at least one of the originating side and receiving side terminals in a base station (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), monitoring a call connection between the originating side and receiving side terminals (see Abstract and column 1, line 55 to column 4, lines 21, see "storing", "storage"), if the originating side and receiving side terminals are in a call connection state, storing status information for each of the terminals (see Abstract and column 1, line 55 to column 4, lines 21, see "storing", "storage"), if the call connection between the terminals is interrupted (see Abstract and column 1, line 55 to column 4, lines 21, see "storing", "storage"), checking whether the call has been interrupted because of a network failure (see Abstract and column 1, line 55 to column 4, lines 21, see "disconnection"), if the call has been interrupted because of a network failure, automatically attempting a recall from the originating side terminal (see Abstract and column 1, line 55 to column 4, lines 21, see "disconnection", "reestablishment"), if a call termination message is received from the originating side terminal or from the receiving side terminal, releasing the call connection between the terminals at the base station (see Abstract, Toda teaches

cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), and transmitting the state information of one of the originating side and receiving side terminals to the other of the originating side and receiving side terminals after the call connection release (see Abstract and column 1, line 55 to column 4, lines 21, see "disconnection", "reestablishment").

Regarding claim 13, Toda teaches the call connecting step comprises: transferring an originating signal from the originating side terminal to the base station (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), transferring a terminating signal from the base station to the receiving side terminal (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), and transferring a response message from the receiving side terminal to the base station in response to the terminating signal, thereby forming a traffic channel (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 14, Toda teaches the state information includes one of battery voltage information, an RSSI, and ON/OFF information of at least one of the terminals (see Abstract and column 1, line 55 to column 4, lines 21, see "strength", also see column 10, lines 25-30, and column 10, lines 45-50).

Regarding claim 16, Toda teaches the recall attempting step comprises: checking whether the call connection has been interrupted because of a network failure; starting a timer; judging whether a call termination message has been received;

monitoring an RSSI (see Abstract and column 1, line 55 to column 4, lines 21, see "strength"), and transmitting a recall signal if the RSSI is greater than a predetermined reference value (see Abstract and column 1, line 55 to column 4, lines 21, see "disconnection", "reestablishment" and "abort").

Regarding claim 17, Toda teaches the recall signal transferring step includes: paging a phone number stored in a memory unit of the originating side terminal; and transmitting an originating call (see Abstract and column 1, line 55 to column 4, lines 21.

Regarding claim 18, Toda teaches if the timer elapses or a call termination message is received, terminating the recall attempting step of the originating side terminal (see column 10, lines 30-36).

Regarding claim 19, Toda teaches transmitting the state information of the originating side terminal stored in the base station to the receiving side terminal (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), and transmitting the state information of the receiving side terminal to the originating side terminal (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 20, Toda teaches transmitting the state information comprises: displaying the received state information on a display unit (see column 8, lines 1-6 and column 8, lines 56-62).

Regarding claim 21, Toda teaches a method of managing calls in a mobile communication system (see Abstract), comprising: connecting a call between an originating side terminal and a receiving side terminal; transmitting state information of

the originating side terminal to a base station (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), checking whether a call termination message is input from a user in response to a call interruption (see Abstract and column 1, line 55 to column 4, lines 21, see "disconnection"), sensing whether an RSSI is restored to a level sufficient to make a call available (see Abstract and column 1, line 55 to column 4, lines 21, see "storing", "strength"); if the RSSI is restored, automatically attempting a recall based on a phone number stored in a memory; when the call to the receiving side terminal is terminated (see Abstract and column 1, line 55 to column 4, lines 21, see "disconnection", "automatically"), receiving state information of the receiving side terminal (see Abstract and column 1, line 55 to column 4, lines 21), and displaying the state information on the originating side terminal (see column 8, lines 1-6 and column 8, lines 56-62).

Regarding claim 23, Toda teaches starting a timer when the call interruption is detected and judging that the call interruption resulted from a network failure when the timer expires (see column 10, lines 30-36).

Regarding claim 25, Toda teaches if the timer elapses or the call termination message is input (see column 10, lines 30-36), the originating side terminal terminates the recall attempting step and then terminates a call to the receiving side terminal (see Abstract and column 1, line 55 to column 4, lines 21, "reestablishment" and "reinitiates").

Regarding claim 26, Toda teaches connecting a call between a receiving side terminal and an originating side terminal through a base station (see Abstract, Toda

teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), receiving state information of the receiving side terminal in the base station (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), generating a call termination message (see Abstract and column 1, line 55 to column 4, lines 21), receiving state information of the originating side terminal in the base station (see Abstract and column 1, line 55 to column 4, lines 21), and displaying state information of the originating side terminal (see column 8, lines 1-6 and column 8, lines 56-62).

Regarding claim 28, Toda teaches the call termination message is generated from the receiving side terminal or transmitted from the base station (see Abstract and column 1, line 55 to column 4, lines 21, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station).

Regarding claim 30, Toda teaches determining an operational state of a first mobile terminal and transmitting information indicative of the operational state to a second mobile terminal (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 31, Toda teaches the first mobile terminal is a called terminal and the second mobile terminal is a calling terminal (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 32, Toda teaches displaying the operational state information on the second mobile terminal (see column 8, lines 1-6 and column 8, lines 56-62).

Regarding claim 33, Toda teaches transmitting the operational state information to a base station (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), and transmitting the operational state information from the base station to the second mobile terminal (see Abstract, Toda teaches cellular phone, the teaching of Toda inherently teaches a base station, and see column 1, line 55 to column 4, lines 21, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station).

Regarding claim 34, Toda teaches detecting termination of a call between the first and second mobile terminals and transmitting the operational state information from the base station to the second mobile terminal in response to the detected call termination (see Abstract and column 1, line 55 to column 4, lines 21, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station).

Regarding claim 35, Toda teaches detecting a network failure during a call between the first and second mobile terminals; and automatically transmitting a recall request from the second mobile terminal to the first mobile terminal in response to detection of the temporary network failure (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 36, Toda teaches the recall request is automatically transmitted based on a last-stored phone number stored in the second mobile terminal, said last-stored phone number corresponding to the first mobile terminal (see Abstract and

column 1, line 55 to column 4, lines 21).

Regarding claims 37, 47, 56 and 61, Toda teaches the operational state information is indicative of a low battery voltage condition of the first mobile terminal (see column 4, lines 12-21).

Regarding claims 38, 48, 57 and 62, Toda teaches the operational state information is indicative of the first terminal being turned off (see column 4, lines 12-21 and column 10, lines 45-50).

Regarding claims 39, 49, 58 and 63, Toda teaches the operational state information is indicative of a low signal strength condition experienced by the first mobile terminal (see Abstract and column 1, line 55 to column 4, lines 21, "strength").

Regarding claim 40, Toda teaches receiving information indicative of an operational state of a first mobile terminal and outputting the operational state information on a second mobile terminal (see column 8, lines 1-6 and column 8, lines 56-62).

Regarding claim 41, Toda teaches the first mobile terminal is a called terminal and the second mobile terminal is a calling terminal (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 42, Toda teaches displaying the operational state information on the second mobile terminal (see column 8, lines 1-6 and column 8, lines 56-62).

Regarding claim 43, Toda teaches receiving the operational state information in a base station and transmitting the operational state information from the base station to the second mobile terminal (see Abstract and column 1, line 55 to column 4, lines 21,

Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station).

Regarding claim 44, Toda detecting termination of a call between the first and second mobile terminals; and transmitting the operational state information from the base station to the second mobile terminal in response to the detected call termination (see Abstract and column 1, line 55 to column 4, lines 21, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station).

Regarding claim 45, Toda teaches detecting a network failure during a call between the first and second mobile terminals; and automatically transmitting a recall request from the second mobile terminal to the first mobile terminal in response to detection of the temporary network failure (see Abstract and column 1, line 55 to column 4, lines 21, "automatically").

Regarding claim 46, Toda teaches the recall request is automatically transmitted based on a last-stored phone number stored in the second mobile terminal, said last-stored phone number corresponding to the first mobile terminal (see Abstract and column 1, line 55 to column 4, lines 21, "storing", "storage").

Regarding claim 50, Toda teaches receiving information indicative of an operational state of a first mobile terminal and transmitting the operational state information to a second mobile terminal (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 51, Toda teaches the first mobile terminal is a called terminal

and the second mobile terminal is a calling terminal (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 52, Toda teaches the receiving and updating steps are performed in a base station (see Abstract, column 1, line 55 to column 4, lines 21, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station).

Regarding claim 53, Toda teaches detecting termination of a call between the first and second mobile terminals and performing the transmitting step after said call termination (see Abstract and column 1, line 55 to column 4, lines 21).

Regarding claim 55, Toda teaches a detector which detects an operational state of the terminal, and a transmitter which transmits information indicative of the operational state of the terminal to a base station (see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station) during a call between the terminal and another terminal (see column 6, lines 11-19).

Regarding claim 59, Toda teaches a receiver which receives information indicative of an operational state of another mobile terminal, and an output unit which outputs the operational state information on a second mobile terminal (see column 8, lines 1-6 and column 8, lines 56-62).

Regarding claim 60, Toda teaches the output unit is a display which displays the operational state information (see column 8, lines 1-6 and column 8, lines 56-62).

Regarding claim 64, Toda teaches a detector which detects an interruption of a

call with the other terminal; and a processor which automatically transmits a recall signal based on the detected call interruption (see column 6, lines 11-19 and see Abstract and column 1, line 55 to column 4, lines 21, "automatically").

Regarding claim 65, Toda teaches the call interruption is a network failure (see Abstract and column 1, line 55 to column 4, lines 21, see "disconnection").

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 4, 11, 15, 24 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toda (US 6,275,713) in view of Hayashi (US 6,650,913).

Regarding claims 4, 11, 15, 24 and 29, Toda teaches the first mobile terminal comprises: a display which displays the state information of the second mobile terminal received from the base station (see column 8, lines 1-6 and column 8, lines 56-62 and see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), a memory which stores a call list which includes a phone number of the second mobile terminal (column 1, lines 16-25 and column 8, lines 40-55, see "storing" and "storage"), a key panel including a call termination button (see column 1, lines 16-25 and column 8, lines 40-55), a timer which counts pre-set time after a call is released because of a network

failure (see column 10, lines 30-36), and an MSM unit (see fig.1, processing section 14) which controls transmission of the state information of the first mobile terminal to the base station (see fig.1, control section 11, and see Abstract, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station), senses an RSSI when a call connection between the first and second mobile terminals is released because of a network failure (see Abstract and column 1, lines 16-25 and column 8, lines 40-55, see "strength"), and performs an automatic call connection function in response to the second call connection release (see Abstract and column 1, line 55 to column 4, lines 21, "automatically").

Toda does not specifically disclose a detecting sensor for judging whether a flip or a folder of the first mobile terminal is opened.

Hayashi teaches a detecting sensor for judging whether a flip or a folder of the first mobile terminal is opened (see Abstract and column 2, lines 33-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Hayashi into the system of Toda in order to reduce the amount of operations requiring user intervention (see Hayashi, column 1, lines 52-55).

6. Claims 5, 22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toda (US 6,275,713) in view of Wooten et al (US 6,084,870).

Regarding claim 5, Toda teaches claim 1. Toda does not specifically disclose the base station includes a memory for storing the state information received from the

first mobile terminal.

Wooten teaches the base station includes a memory for storing the state information received from the first mobile terminal (see column 17, lines 12-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Wooten into the system of Toda in order to provide a novel and improved method and apparatus for utilizing communication systems (see Woote, column 1, lines 11-16).

Regarding claims 22 and 27, Toda teaches continuously transmitting the state information of the originating side terminal to the base station (see Abstract and column 1, line 55 to column 4, lines 21, Toda teaches cellular phone, in order to communicate between cellular phones, the teaching of Toda inherently teaches a base station). Toda does not specifically disclose updating a memory of the base station with the continuously transmitted state information.

Wooten teaches updating a memory of the base station with the continuously transmitted state information (see column 17, lines 12-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Wooten into the system of Toda in order to provide a novel and improved method and apparatus for utilizing communication systems (see Wooten, column 1, lines 11-16).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Spinner (US 6,731,937) teaches call set-up control with automatic recall if busy subscriber.

b. Bell (US 6,445,921) teaches call re-establishment for a dual mode telephone.

c. Pearsall (US 6,442,261) teaches call recovery method and apparatus for an attendant telephone set.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi H. Ly

01/05/06

Marsha D Banb-Harold

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